

Query Processing in Ontology Based Data Access

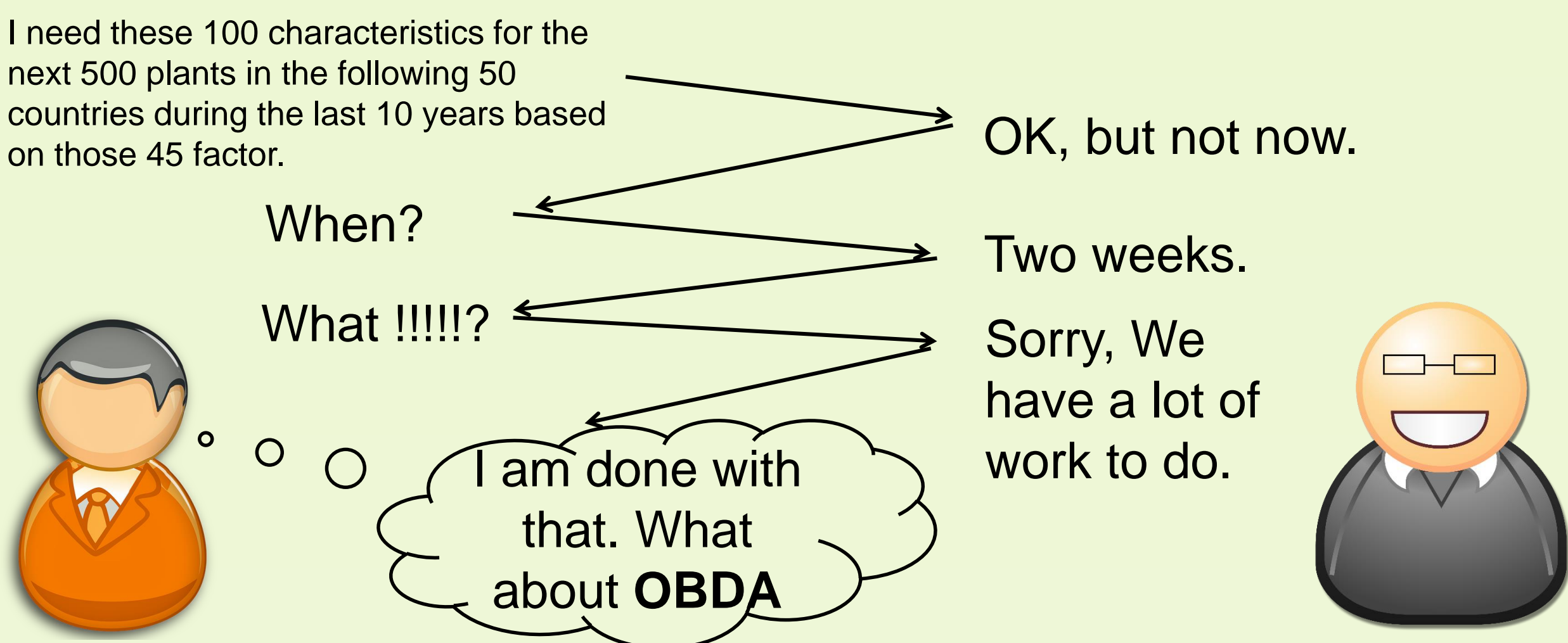
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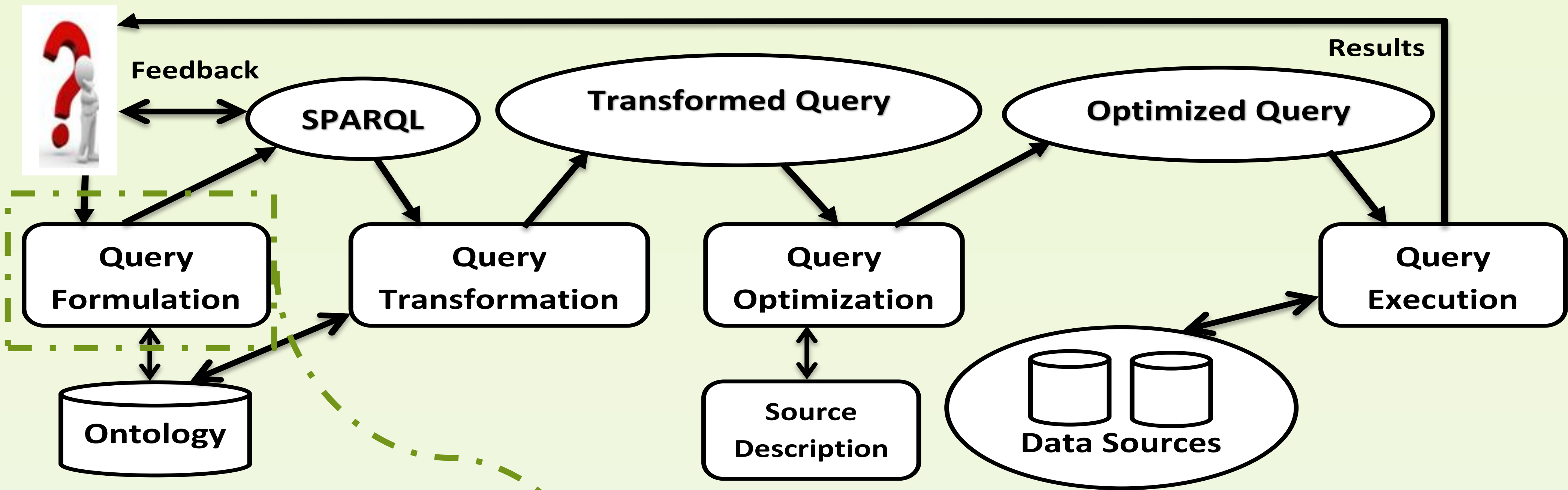


Introduction

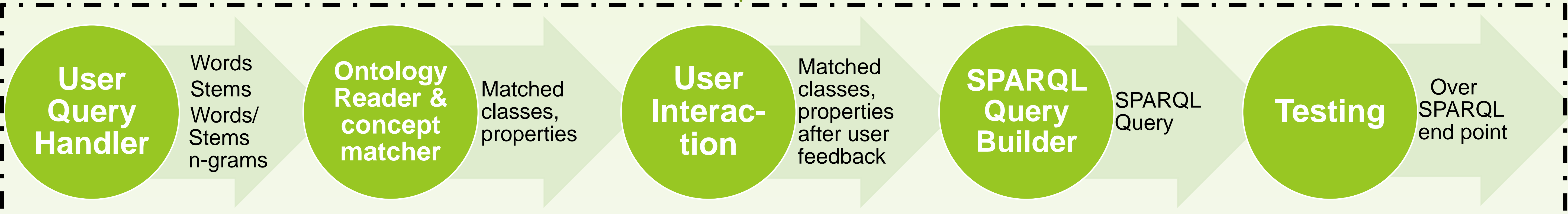
- Large number of ontologies are developed and used to represent and annotate biodiversity data.
- OBDA allows the access to heterogeneous data.
- OBDA is inspired from the efficiency of RDBMS in answering conjunctive queries.
- Query processing is a substantial part of OBDA.



Generic Architecture



Proposed Query Translator



Translator Demo

Processing Interface

Logger

User Query:
give me all school administrators

Processing user quer as follow:

tokens after removing stop words
token give
token school
token administrators

tokens after stemming
Stem give
Stem school
Stem administr

* Query words with the ontology classes
School = school

N Gram Items:

Query Words Ngrams
giveschool
schooladministrators
giveschooladministrators

Class1 Based Query
prefix dbpedia-owl: <http://dbpedia.org/ontology/>

User Interface

Give me all school administrators

☐ Read / Update Ontology

Translate

Translate File

MilitaryStructure
HockeyTeam
Biomolecule
Politician
newtonMetre
Mill
Street

>>

☒ school

Submit Feedback

Query 1087 = prefix dbpedia-owl: <http://dbpedia.org/ontology/>
select ?school
where { ?school a <http://dbpedia.org/ontology/School> .
}

Future Direction

- Enhance the matching.
- Use multiple ontologies.
- Integrate the tool with other existing systems.

Acknowledgments

This work has been partially funded by the Deutsche Forschungsgemeinschaft (DFG) as part of the CRC 1076 AquaDiva. A part of this research was supported by The DAAD funding through the BioDialog project.